

**UNITED STATES DEPARTMENT OF COMMERCE****United States Patent and Trademark Office**Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231*AS*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/308,770 10/28/99 SCHWERTFEGER

F. 3259.81131

IM52/0615

EXAMINER

MARTHA ANN FINNEGAN  
CABOT CORPORATION  
BILLERICA TECHNICAL CENTER  
157 CONCORD ROAD  
BILLERICA MA 01821-7001

CROCKEY, K

ART UNIT

PAPER NUMBER

*16*

1762

DATE MAILED:

06/15/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/308,770	SCHWERTFEGER, FRITZ
	Examiner	Art Unit
	Kirsten A Crockford	1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 18 April 2001.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-24 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-24 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

15) Notice of References Cited (PTO-892)

16) Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13.

18) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

19) Notice of Informal Patent Application (PTO-152)

20) Other: \_\_\_\_\_

**DETAILED ACTION**

*Response to Arguments*

1. With respect to the 35 U.S.C. 103(a) rejection over Burns et al. (5,750,610), Applicant has stated that an English language translation of the priority German patent application DE 196 48 797.8 is being obtained and will be submitted to the Examiner. Upon receipt of the English translation the rejection over Burns et al. will be withdrawn, as Applicant's foreign priority date precedes the effective filing date of Burns et al. Since the translation has not yet been received, the claims currently remain rejected over Burns et al. in this action.
2. Applicant's arguments filed April 18, 2001 regarding Burns et al. and Lentz have been fully considered but they are not persuasive. Applicant argues that neither Burns et al. nor Lentz teach introducing a lyogel into a reactor and washing the lyogel with an organic solvent. The Examiner disagrees. Both Burns et al. and Lentz teach the use of a hydrogel, which is a lyogel as taught on page 10, lines 13-15, of Applicant's own specification. Additionally, while Burns et al. does not specifically teach that the hydrogel is placed in a reactor, "reactor" is merely a broad term used to describe a vessel in which a reaction takes place. For example, Burns et al. teaches introducing a hydrogel into a flask in its Examples and thereafter reacting the hydrogel in the flask; the flask meets Applicant's limitation of a reactor. If Applicant disagrees, then he should demonstrate the criticality of using a conventional "reactor" on the record; however, it is noted that Applicant does not appear to teach the use of a particular type of reactor in its specification. Further, with respect to washing the lyogel/hydrogel with an organic solvent, Burns et al. teaches that "The organic solvent can be added prior to . . . the addition of the organosilicon compound.

Art Unit: 1762

That is the organosilicate-modified silica hydrogel can be first converted into an organogel by replacement of the water with the organic solvent and then hydrophobed" (col. 7, lines 7-15). The addition of organic solvent inherently involves contact of the hydrogel with an amount of organic solvent and therefore meets the Applicant's limitation of "washing." "Wash" can be broadly defined as "to flush or moisten with a liquid" or "to wet thoroughly", as per Merriam-Webster's Collegiate Dictionary, 10<sup>th</sup> Edition. Further, it is evidenced that the replacement of water by solvent constitutes washing because it is taught in Applicant's own specification at page 16, lines 12-16; Applicant discloses that "For the washing, a part of the water can be replaced by organic solvent." Alternatively, it is noted that Burns et al. also teaches that washing may be performed prior to addition of the organosilicon compounds at col. 5, lines 46-50.

As to the Lentz reference, Lentz inherently introduces and reacts its hydrogel in a reactor for the reasons set forth above. Further, Lentz teaches that "The organic solvent can be added prior to . . . the addition of the organosilicon compound. That is the silica hydrogel can be first converted into an organogel by replacement of the water with an organic solvent. This step would necessarily meet Applicant's limitation of "washing with an organic solvent" for the reasons set forth in more detail above. Alternatively, it is noted that Lentz also teaches washing at col. 3, lines 20-24. Applicant also argues that Lentz does not teach surface-silylating the hydrogel with a surface-silylating agent comprising disiloxane R<sub>3</sub>Si-O-SiR<sub>3</sub>. It is noted that Lentz teaches surface-silylating at col. 2, lines 63-67, whereby Lentz states "Usually the surface area of the silica gel is reduced by the hydrophobing reaction since the organosilyl groups which thereby become attached to the surface of the gel increase the average particle size." As the organosilicon compounds useful for surface-silylating, Lentz teaches hexaethyldisiloxane at col.

4, line 21 and hexamethyldisiloxane in Examples 1 and 2. While neither Burns et al. nor Lentz disclose the creation of an aerogel, Applicant admits in page 7 of the response that "... some of the materials of Lentz could be characterized as being aerogels or in the nature of aerogels."

Applicant argues that Frank et al. does not introduce a lyogel into a reactor, and wash the lyogel with an organic solvent, and surface-silylate the washed lyogel. While this is acknowledged, it is noted that Frank et al. is cited to demonstrate that it is known in the art to prepare silicate-type hydrosols from an aqueous water glass solution, to add fibers and/or IR turbidity-promoting agents, to allow a gel to age before surface modification, and subcritical drying. Frank et al. is combined with Burns et al. or Lentz for the reasons set forth in paragraph 12 of the prior Office action, paper number 11.

Finally, Applicant argues that neither Lentz nor Burns et al., either alone or together with Frank et al., teach or suggest a process comprising the steps recited in claim 1 combined with the steps of claim 4. It is noted that Frank et al. teaches the steps of claim 4 at col. 4, lines 32-39. It would have been obvious to have prepared the hydrosol in Lentz and Burns et al. by the method taught by Frank et al. with the expectation of successful results because both references specifically state that the method used to prepare the hydrosol for use in their inventions is not critical.

*Claim Rejections - 35 USC § 103*

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 1762

4. Claims 1-2, 9-12, 14-15, 17, 19, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burns et al. (5,750,610) or Lentz (3,122,520).

The claims are rejected for the reasons set forth in paragraph 9 of the prior Office action, paper number 11, and for the reasons set forth above in paragraph 2.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burns et al.

The claims are rejected for the reasons set forth in paragraph 10 of the prior Office action, paper number 11, and for the reasons set forth above in paragraph 2.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lentz as applied to claim 1 above, and further in view of Burns et al.

The claims are rejected for the reasons set forth in paragraph 11 of the prior Office action, paper number 11, and for the reasons set forth above in paragraph 2.

7. Claims 3-9, 16, 18, 20, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burns et al. or Lentz as applied to claims 1-2, 9-12, 14-15, 17, 19, and 21-23 above, and further in view of Frank et al. (5,866,027).

The claims are rejected for the reasons set forth in paragraph 12 of the prior Office action, paper number 11, and for the reasons set forth above in paragraph 2.

*Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten A Crockford whose telephone number is 703-306-5461.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 703-308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3599 for regular communications and 703-305-3599 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1495.

kac *KAC*  
June 13, 2001

*DBP*  
SHRIVE P. BECK  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700